

Russian River County Sanitation District

Frequently Asked Questions

1. What does the Russian River County Sanitation District do?

Russian River County Sanitation District (RRCSD or District) provides sanitation service to approximately 3,000 service connections in the unincorporated areas of Rio Nido, Guerneville, Guerneville Park, and Vacation Beach.

2. What is sanitation?

Sanitation is wastewater or sewage (any water that goes down your drains in your home) that enters the sanitary sewer collection system.

3. Who is in charge of District operations and how is RRCSD governed?

Sonoma County Water Agency assumed operations of RRCSD in January 1995 and completes all operations. Even though Sonoma County Water Agency operates RRCSD, RRCSD remains a separate entity and is governed by the County Board of Supervisors which acts as the Board of Directors for the District.

4. What does the District's wastewater system consist of?

RRCSD provides sewer service to approximately 3,000 parcels using a gravity collection system and treats wastewater at a treatment facility that has been in operation since 1983. The wastewater treatment facility is located at the end of Neely Road, and treats approximately 350,000 gallons of sewage per day during the summer. During flood events, flows to the treatment facility have been as high as 5,000,000 gallons per day, mainly due to river water entering the collection system. The treatment facility is designed to provide tertiary treatment and currently consists of a headworks, two extended aeration activated sludge basins, two secondary clarifiers, two tertiary filters, chlorination and dechlorination chambers, and two holding ponds with a total storage capacity of 4.5-million gallons. Between October 1 and May 14, highly treated wastewater from the treatment plant is discharged to the Russian River. Between May 15 and September 30, the treated wastewater is used for irrigation on Northwood Golf Course and additional forested land.

5. What is the purpose of each of the treatment processes?

- a) Headworks: The headworks grinds up large solids and removes non-degradable materials.
- b) Extended Aeration Activated Sludge Basins: This process uses microscopic organisms to break down the sewage.
- c) Secondary clarification: Secondary clarifiers settle out larger particles.

- d) Tertiary filtration: This process helps to further polish the wastewater.
- e) Chlorination: Chlorination kills bacteria and viruses.
- f) Dechlorination: Dechlorination removes unreacted chlorine, which could be toxic to aquatic life in the river.

6. What is tertiary treatment?

Advanced cleaning of wastewater that goes beyond the secondary or biological stage, removing nutrients such as phosphorus, nitrogen, and most BOD and suspended solids.

7. Are any improvements planned for the District?

RRCS D is completing a project to upgrade the existing treatment facilities to provide additional storage capacity necessary during the season when no treatment plant effluent is being discharged to the Russian River, additional emergency storage capacity during periods of excessive influent flows (storm events), and additional treatment capacity. The construction contract was awarded in July 2003 and will consist of a third aeration basin, a third secondary clarifier, and replacement of the existing two filters with three filters that use a different technology. The project is known as the Third Unit Process Project. Completion of the Third Unit Process Project will increase the treatment facility's maximum sustained peak flow capacity from 1.2 million gallons per day (mgd) to 1.8 mgd.

8. Who regulates RRCS D?

RRCS D is currently permitted by the North Coast Regional Water Quality Control Board (Regional Board) National Pollutant Discharge Elimination System (NPDES) Permit No. CA0024058, Order No. 92-51. A new NPDES permit for the facility is in the process of being adopted (Permit No. CA0024058, Order No. R1-2003-0026) and includes many new requirements. The permit is scheduled to be adopted by the Regional Water Quality Control Board at the Board hearing on November 5, 2003.

9. Are there any items in the new NPDES permit that RRCS D customers should be aware of?

Yes. There are many items in the new NPDES permit that may be of customer interest. In particular, there are two items that could drastically affect the District and may also have an affect on customer rates. The new NPDES permit does not contain a bypass defense provision and includes an upset defense provision which contains a "conclusive presumption" that the upset defense is unavailable during high flow events. These defenses protect the District from monetary penalties for disruptions in operations due to natural disasters such as floods.

10. Why are these defenses important?

Without the defenses, the District could be liable for hundreds of thousands of dollars in penalties, which would mean a significant rise in sewer fees for its customers. The area served by RRCSD has a history of flood events and it is possible that large-scale floods will continue to occur. The treatment plant is currently unable to treat high flows, such as those experienced during large flood events (recent flood events that caused problems for the District include floods in 1995 and 1998).

11. Why doesn't RRCSD make the improvements necessary to meet the Regional Board's requirements?

The treatment plant has undergone numerous improvements over the past 10 years to improve handling of high flows. District staff and Regional Board staff have discussed at length what improvements could be made to the plant to improve its performance during high flows. A formal agreement was not reached regarding what improvements would need to be made for the plant to be considered "adequate". However, both parties have tentatively stated that the construction of the Third Unit Process Project (described in question 8), a 5.7 million-gallon storage basin, and expansion of the chlorine contact chamber would be effective in improving the facility's handling of high flows. The District wants the Regional Board to acknowledge that if these improvements are made to the plant, that the upset and bypass defenses will be available to the District.

12. Why are the flows coming into the treatment plant so high when it rains?

High flows during a storm event are related primarily to infiltration and inflow into the sewer collection system. Infiltration is water that enters the system from the soil through foundation drains, defective pipes or joints and faulty connections. Inflow is water that enters the sewer collection system from sources such as roof leaders, basement and yard drains. When the Russian River level rises, flood waters may enter the collection system through manholes, open sewer cleanouts or drains, or plumbing fixtures in flooded residences. This causes a drastic increase in the inflow rate. Unfortunately, all the water that enters the sewer collection system is then considered wastewater and must be treated.

13. What happens when the plant receives more wastewater than it can handle?

During major flood events, the District maximizes the operation of the plant. When flow to the plant is greater than the plant can treat, some flow is diverted to a 1-million gallon emergency storage pond and chlorinated. When the flow subsides, this partially-treated mixture of wastewater and river water is pumped back into the aeration basin for full treatment. In the event that the flow does not subside before capacity in the emergency holding pond is reached, it is blended with the fully treated wastewater and discharged to the river.

14. What is the environmental impact of this blended discharge?

The blended effluent meets most of the water quality criteria required in the permit. A bioassay test (in which young rainbow trout are immersed in the treated wastewater for a

period of several days), performed using blended effluent in 1998 had a 100% survival rate. Additionally, this blended effluent is discharged at a fraction of the flow of the river.

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